

-continued

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

|   |     |
|---|-----|
| ACCATGAAGA TCTCTGCAGC TGCCCTCACC ATCATCCTCA CTGCAGCCGC CCTCTGGGCG | 60  |
| CCCGCGCCTG CCTCACCATA TGGCTCGGAC ACCACTCCCT GCTGCTTTGC CTACCTCTCC | 120 |
| CTCGCGCTGC CTCGTGCCCA CGTCAAGGAG TATTCTTACA CCAGCAGCAA GTGCTCCAAT | 180 |
| CTTGCAAGTCG TGTTTGTAC TCGAAGGAAC CGCCAAGTGT GTGCCAACCC AGAGAAGAAG | 240 |
| TGGTTCAAG AATACATCAA CTATTGGAG ATGAGCTAG                          | 279 |

While various embodiments of the present invention have been described in detail, it is apparent that modifications and adaptations of those embodiments will occur to those skilled in the art. It is to be expressly understood, however, that such modifications and adaptations are within the scope of the present invention, as set forth in the following claims:

What is claimed:

1. A composition, comprising a recombinant construct comprising a first isolated nucleic acid sequence encoding a superantigen and a second isolated nucleic acid sequence encoding a chemokine, wherein said isolated nucleic acid sequences are operatively linked to one or more transcription control sequences.

2. A composition comprising:

- (a) a first recombinant construct comprising an isolated nucleic acid sequence encoding a superantigen operatively linked to one or more transcription control sequences; and,
- (b) a second recombinant construct comprising an isolated nucleic acid sequence encoding a chemokine operatively linked to one or more transcription control sequences.

3. A method to treat a mammal that has cancer, said method comprising administering to said mammal a therapeutic composition comprising:

- (a) a liposome delivery vehicle; and,
- (b) a recombinant construct comprising a first isolated nucleic acid sequence encoding a superantigen and a second isolated nucleic acid sequence encoding a chemokine, said first and second nucleic acid sequences being operatively linked to one or more transcription control sequences;

wherein said first and said second nucleic acid sequences encoding said superantigen and said chemokine, respectively, are coexpressed at or adjacent to said cancer; and,

wherein said coexpression of said superantigen and said chemokine produces a result selected from the group consisting of alleviation of said cancer, reduction of a tumor associated with said cancer, elimination of a tumor associated with said cancer, prevention of metastatic cancer, and stimulation of effector cell immunity against said cancer.

4. A method to treat a mammal that has cancer, said method comprising administering to said mammal a therapeutic composition comprising:

- (a) a liposome delivery vehicle;
- (b) a first recombinant construct comprising an isolated nucleic acid sequence encoding a superantigen operatively linked to one or more transcription control sequences; and,
- (c) a second recombinant construct comprising an isolated nucleic acid sequence encoding a chemokine operatively linked to one or more transcription control sequences;

wherein said nucleic acid sequences encoding said superantigen and said chemokine, respectively, are coexpressed at or adjacent to said cancer; and,

wherein said coexpression of said superantigen and said chemokine produces a result selected from the group consisting of alleviation of said cancer, reduction of a tumor associated with said cancer, elimination of a tumor associated with said cancer, prevention of metastatic cancer, and stimulation of effector cell immunity against said cancer.

5. A method to treat a mammal that has cancer, said method comprising:

- (a) removing cells of said mammal;
- (b) transfecting said cells in vitro with a recombinant construct comprising a first isolated nucleic acid sequence encoding a superantigen and a second isolated nucleic acid sequence encoding a chemokine, said first and second nucleic acid sequences being operatively linked to one or more transcription control sequences; and,

(c) reintroducing said transfected cells to said mammal; wherein said first and said second nucleic acid sequences encoding said superantigen and said chemokine, respectively, are coexpressed at or adjacent to said cancer; and,

wherein said coexpression of said superantigen and said chemokine produces a result selected from the group consisting of alleviation of said cancer, reduction of a tumor associated with said cancer, elimination of a tumor associated with said cancer, prevention of metastatic cancer, and stimulation of effector cell immunity against said cancer.

6. A method to treat a mammal that has cancer, said method comprising:

- (a) removing cells of said mammal;
- (b) transfecting said cells in vitro with a therapeutic composition comprising:
  - (i) a first recombinant construct comprising an isolated nucleic acid sequence encoding a superantigen operatively linked to one or more transcription control sequences; and,
  - (ii) a second recombinant construct comprising an isolated nucleic acid sequence encoding a chemokine operatively linked to one or more transcription control sequences; and,

(c) reintroducing said transfected cells to said mammal; wherein said nucleic acid sequences encoding said superantigen and said chemokine, respectively, are coexpressed at or adjacent to said cancer; and,

wherein said coexpression of said superantigen and said chemokine produces a result selected from the group consisting of alleviation of said cancer, reduction of a tumor associated with said cancer, elimination of a tumor associated with said cancer, prevention of metastatic cancer, and stimulation of effector cell immunity against said cancer.